

### **REMARKS**

Claims 24-58 are pending in this application. Claims 31-58 are allowed. Claims 45, 48 and 56 have been amended herein. The applicants respectfully submit that no new matter has been added. It is believed that this Amendment is fully responsive to the Office Action dated **April 1, 2004**.

#### **Regarding Examiner's Comments**

The Examiner points out a spelling error in claim 48 ("agnet" should be --agent--). The amendment to claim 48 corrects this error.

In addition, the amendments to claims 48 and 56 correct minor errors in those claims. The term "paper layer (F)" is corrected to --paper layer (P)--.

**Claims 24-30 are rejected under 35 U.S.C. §103(a) as being unpatentable over Huang et al. (U.S. Patent No. 3,683,044) in view of Nishimura et al. (U.S. Patent No. 5,356,961).**

The rejection of claims 24-30 is respectfully traversed.

With regard to claim 24, the Examiner cites the composition disclosed in Huang et al. in column 3, line 41, to column 4, line 20, as corresponding to the "epoxy resin with glycidylamine moiety derived from metaxylylenediamine" in claim 1.

The Examiner refers to column 4, lines 38-53, in Huang et al. as disclosing the curing agents that can be used, and states that Huang et al. does not disclose the "amine curing agent that is a reaction product of metaxylylenediamine and a polyfunctional compound having at least one acyl group." The Examiner cites Nishimura et al. in column 2, line 64, to column 3, line 40, for the

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disclosure of a curing agent meeting the limitation of the amine curing agent of claim 24.

Applicants concur that Huang et al. does not disclose the amine curing agent which is a reaction product of (A) metaxylylenediamine or paraxylylenediamine and (B) polyfunctional compound having at least one acyl group moiety by reaction with a polyamine to form an oligomer.

However, Applicants respectfully disagree that Nishimura et al. discloses the curing agent recited in claim 24.

Nishimura et al. discloses an aqueous epoxy resin composition which comprises an epoxy resin and an amidoamine obtained by the reaction of a carboxylic acid with a polyamine compound (Abstract, col. 2, lines 41 to 61, and claim 1).

Further, Nishimura et al. describes on col. 3, lines 5 to 13, that the amidoamine which functions as the curing agent is obtained by reacting **epichlorohydrin** with stoichiometrically excess xylylenediamine to produce a polyamine compound represented by the general formula (I) and subsequently reacting the resultant polyamine compound with a carboxylic acid.

The polyamine compound represented by the general formula ( I ) **contains the unit comprising epichlorohydrin residue having OH group** in its structure. The polyamine compound reacts with a carboxylic acid, whereby the amidoamine used as a curing agent is obtained.

In contrast, the amine curing agent of claim 24 is a reaction product of (A) metaxylylenediamine or paraxylylenediamine and (B) polyfunctional compound having at least one acyl group ..., and of claim 26 is a reaction product of (A), (B) and (C) formic acid, acetic acid, .... The amine curing agent of the present invention contains **no** epichlorohydrin residue

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having OH group in its structure.

Thus, the structure of the amine curing agent of the present invention is quite different from the amidoamine used as a curing agent in Nishimura et al.

Moreover, as shown in Comparative Example 1 of the specification, the gas barrier property of an amine curing agent composed of an addition product of metaxylylenediamine and epichlorohydrin (as in the case of Nishimura et al.) is inferior to that of the amine curing agent in the present invention.

Examples of the epoxy resin to be employed in Nishimura et al include so-called bisphenol A-type resin, so called bisphenol F-type epoxy resin and so-called bisphenol AD-type epoxy resin (col. 2, line 64, to col. 3, line 4).

However, Nishiura et al does not teach the use of an epoxy resin with glycidylamine moiety derived from metaxylylendiamine.

As shown in Comparative Examples 2, 3 and 8 of the Specification, a gas barrier property in each case using epoxy resins with diglycidylether moiety derived from bisphenol A is inferior to that of the present invention.

Huang et al. also does not teach that the use of the heat-curable composition comprising polyglycidyl xylylenediamine of Huang et al. with a curing agent exhibits an excellent gas barrier property. The amidoamine in Nishimura et al. is quite different from the amine curing agent of the present invention. Further, neither Huang et al. nor Nishimura et al. conducts any evaluation test for a gas barrier property, and the references do not suggest optimizing the gas barrier property.

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As noted above, Nishimura does not disclose the amine curing agent of claim 24, and no *prima facie* case of obviousness can be made for claims 24-25. Moreover, Nishimura's list of acids does not include acrylic acid or methacrylic acid, recited in claim 25.

Similarly, claim 26 further recites component (C) in making the curing agent that is one of seven specific carboxylic acids or derivatives. One of these (butyric) is also found in Nishimura's list of acids. However, if Nishimura's carboxylic acid were to correspond to component (C) in claim 26, then there would be no component in Nishimura to correspond to component (B). Claim 28 is also further distinguished from Nishimura, in the same manner as claim 25, discussed above.

Applicants therefore submit that claims 24-30 are novel and non-obvious over Huang et al. and Nishimura et al., taken separately or in combination.

In view of the aforementioned amendments and accompanying remarks, claims, as amended, are in condition for allowance, which action, at an early date, is requested.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicants undersigned agent at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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